



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|------------------------------|------------------------|
| 10/613,023 | 07/07/2003 | Kyung-Hun Jang | 249/388 | 6627 |
| 27849 | 7590 | 12/26/2007 | | |
| LEE & MORSE, P.C. 3141 FAIRVIEW PARK DRIVE SUITE 500 FALLS CHURCH, VA 22042 | | | EXAMINER SHAN, APRIL YING | |
| | | | ART UNIT 2135 | PAPER NUMBER |
| | | | MAIL DATE 12/26/2007 | DELIVERY MODE PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/613,023

Applicant(s)

JANG ET AL.

Examiner

April Y. Shan

Art Unit

2135

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 September 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-11 and 13-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-2, 4-11 and 13-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. A Request for Continued Examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 20 September 2007 has been entered.
2. Claims 1-2, 4-6, 8, 10-11 and 13-21 have been amended. Claims 3 and 12 have been canceled. No new claims have been added. Claims 1-2, 4-11 and 13-21 are currently pending in the present application.
3. Applicant's amendments and argument have been fully considered, but are moot in view of new ground rejection as set forth below. It is noted that Applicant's arguments are directed towards limitations newly added via amendments. Any objections or rejections not repeated below for record are withdrawn due to Applicant's amendment.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 1-2, 4-11 and 13-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Orava et al. (U.S. Pub. No. 20030177267) in view of Bauchot et al. (U.S. Patent No. 5,644,576) and Kallio et al. (U.S. Patent No. 7,050,789)

As per **claim 1**, Orava et al. discloses a method of guaranteeing users' anonymity in a wireless Local Area Network (LAN) system, the method comprising:

(a) creating a temporary address set ("MAC can be a random number generated by means of a random number generator. MAC can be selected from the address space allocated to the MT on the basis of an address selection algorithm. A temporary MAC address MAC can be allocated to the MT for instance from among organization-specific unique identifiers (OUI) reserved for this purpose. Typically, one OUI allows 2^{24} addresses. The IEEE 802 MAC address format allows locally administrable MAC addresses, in which there are 46 available bits in a 48-bit address format for selecting the temporary MAC address. A MAC address can also be formed of a network identifier, such as a BSS identifier BSSID, and of a random part added thereto, for example" – e.g. Par. [0030], [0067]-[0069]) and transmitting the temporary address set to the wireless terminal ("This embodiment enables the usage of several MAC addresses at a time. Several services may be used, via the same radio network and access point AP, at the same time which is considerable improvement compared to current station where only one MAC address and service can be used at a time..."- e.g. par. [0067]-[0070]); and

(b) performing data packet transmissions between the wireless terminal and a wireless access node using a temporary address selected from the temporary address

set corresponding to the wireless terminal as a source address or a destination address (e.g. par. [0030], [0067]-[0070]),

Orava et al. et al. does not expressly disclose creating temporary address set by randomly transforming MAC address of a wireless terminal.

Bauchot et al. discloses creating temporary address set by randomly transforming MAC address of a wireless terminal ("...for generating Bernoulli random variables given a value of P...A stream of random bits is generated...To prevent stations that have been started...the shift registers of different stations can be initialized with a value that is derived from its unique equipment identification tag (e.g. the 48-bit MAC address used in the IEEE 802 standards)..." – e.g. col. 18, lines 4-59, fig. 11 and fig. 12).

Orava et al. and Bauchot et al. are in the same field of endeavor of wireless communication and random number generation.

It would have been obvious to a person with ordinary skill in the art at the time of the invention to modify Orava et al.'s creating a plurality of temporary address sets method with Bauchot et al.'s creating temporary address sets by randomly transforming MAC address of a wireless terminal.

The motivation of doing so would have been "To prevent stations that have been started simultaneously from generating the same sequence of random bits" as disclosed by Bauchot et al. (col. 18, lines 28-30)

Orava et al. – Bauchot et al. does not expressly disclose the temporary address set is encoded using a predetermined encryption key.

However, this common known feature is disclosed in Kallio et al. (e.g. col. 5, line 56 – col.6, line 3).

Orava et al. - Bauchot et al. and Kallio et al. are in the same field of endeavor of wireless communication and random number generation.

It would have been obvious to a person with ordinary skill in the art to combine Kallio et al.'s common known features with Orava et al. – Bauchot et al. to enhance security in the wireless communication since encryption/encoding is well known method in the wireless communication to produce predictable security results.

As **per claim 2**, Orava et al. - Bauchot et al. - Kallio et al. further discloses a method as applied in claim 1. Orava et al. – Bauchot et al. – Kallio et al. further discloses wherein the wireless access node creates the temporary address set, each of which consists of N (where N is an integer greater than or equal to two) temporary addresses using a MAC address contained in an access or authentication request message transmitted from the wireless terminal (e.g. Orava et al., par. [0030] and [0067]-[0070] and Bauchot et al. – e.g. 18, lines 4-59)

As **per claim 4**, Orava et al. - Bauchot et al. - Kallio et al. discloses a method as applied in claims 1. Kallio et al. further discloses wherein each encryption key is created upon authentication of the wireless terminal (col. 5, lines 34-45, lines 56-67 and col. 6, lines 1-3).

As per **claim 5**, Orava et al. - Bauchot et al. - Kallio et al. discloses a method as applied in claims 1. Orava et al. further discloses a first addressing, which is performed in the wireless access node, and generates a destination address randomly selecting, as the destination address, a temporary address set of the wireless terminal after the wireless terminal has requested authentication (e.g. par. [0054] – [0055])

As per **claim 6**, Orava et al. - Bauchot et al. - Kallio et al. discloses a method as applied in claims 5. Kallio et al. further discloses a second addressing, which is performed in the wireless terminal, and generates a source address by randomly selecting, as the source address, a temporary address from the temporary address set of the wireless terminal (e.g. par. [0029]- [0049]).

As per **claim 7**, Orava et al. - Bauchot et al. - Kallio et al. discloses the claimed method of steps as applied above in claim 1. Therefore, Orava et al. – Bauchot et al. – Kallio et al. discloses a computer readable medium having embodied thereon the claimed computer program for carrying out the method of steps.

As per **claim 8**, Orava et al. - Bauchot et al. - Kallio et al. discloses method of steps as applied above in claim 2. Therefore, Orava et al. – Bauchot et al. – Kallio et al. discloses a computer readable medium having embodied thereon the claimed computer program for carrying out the method of steps.

As per **claim 9**, Orava et al. – Bauchot et al. – Kallio et al. discloses the claimed method of steps as applied above in claim 6. Therefore, Orava et al. – Bauchot et al. – Kallio et al. discloses a computer readable medium having embodied thereon the claimed computer program for carrying out the method of steps.

As per **claim 10**, it is rejected using the same rationale as rejecting claim 1 above.

As per **claim 11**, it is rejected using the same rationale as rejecting claim 2 above.

As per **claim 13**, it is rejected using the same rationale as rejecting claim 4 above.

As per **claims 14-15**, they are rejected using the same rationale as rejecting claims 1, 2 and 4-6 above.

As per **claims 16-18**, they are rejected using the same rationale as rejecting claim 14 above.

As per **claims 19-21**, they are rejected using the same rationale as rejecting claim 15 above.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. In particular, Haartsen et al. (U.S. Patent No. 6,570,857), Patel (U.S. Patent No. 6,463,154), Blight et al. (U.S. Patent No. 7,192,235), Welling et al. (U.S. Patent No. 6,580,704), "Temporary MAC Address for Anonymity" (Published in January, March and July, 2002 and authored by Orava et al.) and "Alternate Temporal Key Hash" (Published in April, 2002 and authored by Russ Housley). Applicant is strongly urged to review these references in response to the current office action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to April Y. Shan whose telephone number is (571) 270-1014. The examiner can normally be reached on Monday - Friday, 8:00 a.m. - 5:00 p.m., EST.

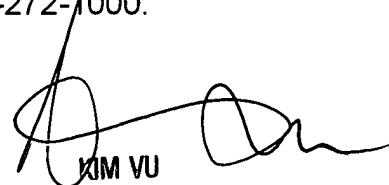
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Y. Vu can be reached on (571) 272-3859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AYS

7 December, 2007

AYS


KIM VU

SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100